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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,812	07/25/2001	Heather Noel Bean	10011701	7171

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EXAMINER

WHIPKEY, JASON T

ART UNIT	PAPER NUMBER
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2612

4

DATE MAILED: 10/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/912,812

Applicant(s)

BEAN ET AL.

Examiner

Jason T. Whipkey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 8-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-7, drawn to an exposure-controlling image capturing device, classified in class 348, subclass 364.
 - II. Claims 8-20, drawn to a method of controlling an exposure using an image capturing device, classified in class 348, subclass 230.1.
2. The inventions are distinct, each from the other because they are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus claimed in group I is not necessary to perform the process claimed in group II.
3. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with William Streeter on October 6, 2004, a provisional election was made **without** traverse to prosecute the invention of group I, claims 1-7.

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Affirmation of this election must be made by applicant in replying to this Office action. Claims 8-20 are withdrawn from further consideration by the examiner under 37 CFR 1.142(b) as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1, 2, and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeWolff (PCT Application Number PCT/US91/09252) in view of Malloy-Desormeaux (U.S. Patent No. 6,577,821).

Regarding **claim 1**, DeWolff discloses:

an image sensor (CCD camera 28; see Figure 1) including a plurality of pixel elements (CCD image sensors inherently have more than one pixel element);

an electronically actuatable shutter device (LCD pad 13; see Figure 1 and page 8, line 26, through page 9, line 5) including a plurality of individually addressable and actuatable shutter elements (see page 8, line 29), with a shutter element of said plurality of individually addressable shutter elements substantially corresponding to at least one of said plurality of pixel elements (as stated on page 8, line 34, through page 9, line 5, the use of the highest resolution LCD possible is preferred; as stated on page 9, lines 27-31, the LCD alters the amount of light captured by CCD camera and displayed on video monitor 36);

a memory storing one or more exposure patterns (included in computer 32; see page 13, lines 18-26);

a processor (computer 32; see Figure 1) communicating with said image sensor, with said shutter device, and with said memory, said processor controlling

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said plurality of shutter elements according to an exposure pattern stored in said memory (page 13, lines 24-34), whereby different shutter elements of said shutter device may be light transmissive for different lengths of time (page 14, lines 4-10).

DeWolff is silent with regard to storing an exposure threshold in the memory.

Malloy-Desormeaux discloses the camera shown in Figure 4. The camera stores lookup tables containing over- and under-exposure thresholds used for the evaluation of the exposure of a captured image.

An advantage to storing exposure thresholds is that they can be used to determine whether a captured image will be usable (see column 36, lines 35-45). For this reason, it would have been obvious at the time of invention to have DeWolff's system store exposure thresholds.

Regarding **claim 2**, DeWolff discloses:

said shutter device comprises a liquid crystal display shutter element (LCD 13; see Figure 1) comprising a two-dimensional array of individually addressable and actuatable shutter elements (page 8, lines 26-30).

Regarding **claim 5**, DeWolff teaches that the image may be captured by photosensitive medium 20 (page 7, line 16). However, DeWolff is silent with regard to specifically using film.

Official Notice is taken that film is a photosensitive medium. Since DeWolff does not disclose a single, specific photosensitive medium for use in his invention, it would have been obvious to use any photosensitive medium, such as film.

Regarding **claim 6**, DeWolff discloses:

said image sensor comprises an electronic image sensor (CCD camera 28; see Figure 1).

Regarding **claim 7**, DeWolff discloses:

said exposure pattern comprises two or more pixel unit exposure durations (LCD pixels have varying exposure periods; see page 14, lines 4-10).

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over DeWolff in view of Malloy-Desormeaux and further in view of Lanzillotta (U.S. Patent No. 5,781,333).

Claim 3 may be treated like claim 1. However, DeWolff is silent with regard to using a two-dimensional array of microelectromechanical shutter elements.

Lanzillotta discloses:

said shutter device comprises a microelectromechanical shutter element (Figure 3 shows an array of light shutters 15 for controlling light transmission; see column 5, lines 11-20) comprising a two-dimensional array of individually addressable and actuatable shutter elements (each shutter is selectively opened and closed; see abstract, lines 2-4).

As stated in column 1, lines 28-30, and column 3, lines 44-46, an advantage to using such a shutter array instead of an LCD to control light transmission is that LCDs have relatively low speeds. For this reason, it would have been obvious at the time of invention to have DeWolff's system use the shutter system disclosed by Lanzillotta.

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10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over DeWolff in view of Malloy-Desormeaux and further in view of Shibuya (U.S. Patent No. 5,986,705).

Claim 4 may be treated like claim 1. However, DeWolff is silent with regard to storing a predetermined image exposure period that controls an overall exposure duration of an image capture.

Shibuya discloses exposure control system 305 (Figure 3) for an electronic camera that stores a minimum exposure time in memory 304 and uses the stored time to determine an appropriate exposure time (see column 7, lines 9-21).

An advantage to storing a minimum exposure time in a memory is that the camera will not select an exposure time shorter than that required by the operating specifications of the image sensor, and, as described in column 7, lines 35-41, the brightness of the image may be controlled in other ways. For this reason, it would have been obvious at the time of invention to have DeWolff's system store a minimum exposure time allowable by the image sensor.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason T. Whipkey, whose telephone number is (703) 305-1819.

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The examiner can normally be reached Monday through Friday from 8:30 A.M. to 6:00 P.M. eastern daylight time, alternating Fridays off.

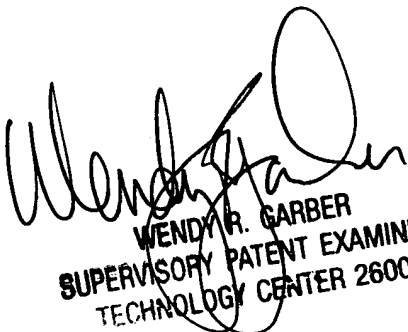
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R. Garber, can be reached on (703) 305-4929. The fax phone number for the organization where this application is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JTW

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October 18, 2004


WENDY R. GARBER
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